

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/714,343C  
Source: 1 FWO  
Date Processed by STIC: 2/23/06

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 02/23/2006

PATENT APPLICATION: US/10/714,343C

TIME: 11:28:36

Input Set : A:\54275.8016.US01.txt

Output Set: N:\CRF4\02232006\J714343C.raw

3 <110> APPLICANT: ZENGEN, INC.  
 4 Lipton, James M.  
 6 <120> TITLE OF INVENTION: MODIFIED ALPHA-MSH PEPTIDES AND DERIVATIVES THEREOF  
 8 <130> FILE REFERENCE: 54275.8016.US01  
 10 <140> CURRENT APPLICATION NUMBER: 10/714,343C  
 11 <141> CURRENT FILING DATE: 2003-11-14  
 13 <150> PRIOR APPLICATION NUMBER: US 60/426,929  
 14 <151> PRIOR FILING DATE: 2002-11-14  
 16 <160> NUMBER OF SEQ ID NOS: 46  
 18 <170> SOFTWARE: PatentIn version 3.3  
 20 <210> SEQ ID NO: 1  
 21 <211> LENGTH: 8  
 22 <212> TYPE: PRT  
 23 <213> ORGANISM: Artificial  
 25 <220> FEATURE:  
 26 <223> OTHER INFORMATION: Modified MSH peptide  
 29 <220> FEATURE:  
 30 <221> NAME/KEY: MISC\_FEATURE  
 31 <222> LOCATION: (7)..(7)  
 32 <223> OTHER INFORMATION: Xaa is Phe or DPhe  
 34 <400> SEQUENCE: 1  
 W--> 36 His Phe Arg Trp Gly Lys Xaa Val  
 37 1 5  
 40 <210> SEQ ID NO: 2  
 41 <211> LENGTH: 8  
 42 <212> TYPE: PRT  
 43 <213> ORGANISM: Artificial  
 45 <220> FEATURE:  
 46 <223> OTHER INFORMATION: Modified MSH peptide  
 49 <220> FEATURE:  
 50 <221> NAME/KEY: MISC\_FEATURE  
 51 <222> LOCATION: (2)..(2)  
 52 <223> OTHER INFORMATION: Xaa is DPhe or DNal  
 54 <400> SEQUENCE: 2  
 W--> 56 His Xaa Arg Trp Gly Lys Pro Val  
 57 1 5  
 60 <210> SEQ ID NO: 3  
 61 <211> LENGTH: 8  
 62 <212> TYPE: PRT  
 63 <213> ORGANISM: Artificial  
 65 <220> FEATURE:  
 66 <223> OTHER INFORMATION: Modified MSH peptide  
 69 <220> FEATURE:

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70 <221> NAME/KEY: MISC_FEATURE
71 <222> LOCATION: (2)..(2)
72 <223> OTHER INFORMATION: Xaa is DPhe or DNal
74 <220> FEATURE:
75 <221> NAME/KEY: MISC_FEATURE
76 <222> LOCATION: (7)..(7)
77 <223> OTHER INFORMATION: Xaa is Phe or DPhe
79 <400> SEQUENCE: 3
W--> 81 His Xaa Arg Trp Gly Lys Xaa Val
82 1 5
85 <210> SEQ ID NO: 4
86 <211> LENGTH: 8
87 <212> TYPE: PRT
88 <213> ORGANISM: Artificial
90 <220> FEATURE:
91 <223> OTHER INFORMATION: Modified MSH peptide
94 <220> FEATURE:
95 <221> NAME/KEY: MISC_FEATURE
96 <222> LOCATION: (7)..(7)
97 <223> OTHER INFORMATION: Xaa is an amino acid having a non-polar functional group
99 <400> SEQUENCE: 4
W--> 101 His Phe Arg Trp Gly Lys Xaa Val
102 1 5
105 <210> SEQ ID NO: 5
106 <211> LENGTH: 8
107 <212> TYPE: PRT
108 <213> ORGANISM: Artificial
110 <220> FEATURE:
111 <223> OTHER INFORMATION: Modified MSH peptide
114 <220> FEATURE:
115 <221> NAME/KEY: MISC_FEATURE
116 <222> LOCATION: (8)..(8)
117 <223> OTHER INFORMATION: Xaa is an amino acid other than Val having a non-polar
functional
118 group or a hydrophobic functional group
120 <400> SEQUENCE: 5
W--> 122 His Phe Arg Trp Gly Lys Pro Xaa
123 1 5
126 <210> SEQ ID NO: 6
127 <211> LENGTH: 8
128 <212> TYPE: PRT
129 <213> ORGANISM: Artificial
131 <220> FEATURE:
132 <223> OTHER INFORMATION: Modified MSH peptide
135 <220> FEATURE:
136 <221> NAME/KEY: MISC_FEATURE
137 <222> LOCATION: (6)..(6)
138 <223> OTHER INFORMATION: Xaa is an amino acid having a non-polar functional group
140 <400> SEQUENCE: 6
W--> 142 His Phe Arg Trp Gly Xaa Pro Val

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Input Set : A:\54275.8016.US01.txt

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149 <213> ORGANISM: Artificial
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152 <223> OTHER INFORMATION: Modified MSH peptide
155 <220> FEATURE:
156 <221> NAME/KEY: MISC_FEATURE
157 <222> LOCATION: (7)..(7)
158 <223> OTHER INFORMATION: Xaa is an amino acid having a positively charged functional
group
160 <400> SEQUENCE: 7
W--> 162 His Phe Arg Trp Gly Lys Xaa Val
163 1          5
166 <210> SEQ ID NO: 8
167 <211> LENGTH: 8
168 <212> TYPE: PRT
169 <213> ORGANISM: Artificial
171 <220> FEATURE:
172 <223> OTHER INFORMATION: Modified MSH peptide
175 <220> FEATURE:
176 <221> NAME/KEY: MISC_FEATURE
177 <222> LOCATION: (7)..(7)
178 <223> OTHER INFORMATION: Xaa is an amino acid having a negatively charged functional
group
180 <400> SEQUENCE: 8
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183 1          5
186 <210> SEQ ID NO: 9
187 <211> LENGTH: 8
188 <212> TYPE: PRT
189 <213> ORGANISM: Artificial
191 <220> FEATURE:
192 <223> OTHER INFORMATION: Modified MSH peptide
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196 <221> NAME/KEY: MISC_FEATURE
197 <222> LOCATION: (2)..(2)
198 <223> OTHER INFORMATION: Xaa is DPhe or DNal
200 <220> FEATURE:
201 <221> NAME/KEY: MISC_FEATURE
202 <222> LOCATION: (7)..(7)
203 <223> OTHER INFORMATION: Xaa is an amino acid having a negatively charged functional
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205 <400> SEQUENCE: 9
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208 1          5
211 <210> SEQ ID NO: 10
212 <211> LENGTH: 8
213 <212> TYPE: PRT
214 <213> ORGANISM: Artificial
216 <220> FEATURE:

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217 <223> OTHER INFORMATION: Modified MSH peptide
220 <220> FEATURE:
221 <221> NAME/KEY: MISC_FEATURE
222 <222> LOCATION: (4)..(4)
223 <223> OTHER INFORMATION: Xaa is DTrp
225 <400> SEQUENCE: 10
W--> 227 His Phe Arg Xaa Gly Lys Pro Val
228 1 5
231 <210> SEQ ID NO: 11
232 <211> LENGTH: 8
233 <212> TYPE: PRT
234 <213> ORGANISM: Artificial
236 <220> FEATURE:
237 <223> OTHER INFORMATION: Modified MSH peptide
240 <220> FEATURE:
241 <221> NAME/KEY: MISC_FEATURE
242 <222> LOCATION: (7)..(7)
243 <223> OTHER INFORMATION: Xaa is an amino acid having an uncharged polar functional
group
245 <400> SEQUENCE: 11
W--> 247 His Phe Arg Trp Gly Lys Xaa Val
248 1 5
251 <210> SEQ ID NO: 12
252 <211> LENGTH: 8
253 <212> TYPE: PRT
254 <213> ORGANISM: Artificial
256 <220> FEATURE:
257 <223> OTHER INFORMATION: Modified MSH peptide
260 <220> FEATURE:
261 <221> NAME/KEY: MISC_FEATURE
262 <222> LOCATION: (2)..(2)
263 <223> OTHER INFORMATION: Xaa is DPhe or DNal
265 <220> FEATURE:
266 <221> NAME/KEY: MISC_FEATURE
267 <222> LOCATION: (7)..(7)
268 <223> OTHER INFORMATION: Xaa is an amino acid having an uncharged polar functional
group
270 <400> SEQUENCE: 12
W--> 272 His Xaa Arg Trp Gly Lys Xaa Val
273 1 5
276 <210> SEQ ID NO: 13
277 <211> LENGTH: 13
278 <212> TYPE: PRT
279 <213> ORGANISM: Homo sapiens
281 <400> SEQUENCE: 13
283 Ser Tyr Ser Met Glu His Phe Arg Trp Gly Lys Pro Val
284 1 5 10
287 <210> SEQ ID NO: 14
288 <211> LENGTH: 39
289 <212> TYPE: PRT
290 <213> ORGANISM: Homo sapiens

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292 <400> SEQUENCE: 14
294 Ser Tyr Ser Met Glu His Phe Arg Trp Gly Lys Pro Val Gly Lys Lys
295 1          5          10          15
298 Arg Arg Pro Val Lys Val Tyr Pro Asn Gly Ala Glu Asp Glu Ser Ala
299          20          25          30
302 Glu Ala Phe Pro Leu Glu Phe
303          35
306 <210> SEQ ID NO: 15
307 <211> LENGTH: 7
308 <212> TYPE: PRT
309 <213> ORGANISM: Artificial
311 <220> FEATURE:
312 <223> OTHER INFORMATION: Truncated MSH peptide
314 <400> SEQUENCE: 15
316 Met Glu His Phe Arg Trp Gly
317 1          5
320 <210> SEQ ID NO: 16
321 <211> LENGTH: 3
322 <212> TYPE: PRT
323 <213> ORGANISM: Artificial
325 <220> FEATURE:
326 <223> OTHER INFORMATION: Truncated MSH peptide
328 <400> SEQUENCE: 16
330 Lys Pro Val
331 1
334 <210> SEQ ID NO: 17
335 <211> LENGTH: 4
336 <212> TYPE: PRT
337 <213> ORGANISM: Artificial
339 <220> FEATURE:
340 <223> OTHER INFORMATION: Truncated MSH peptide
342 <400> SEQUENCE: 17
344 His Phe Arg Trp
345 1
348 <210> SEQ ID NO: 18
349 <211> LENGTH: 8
350 <212> TYPE: PRT
351 <213> ORGANISM: Artificial
353 <220> FEATURE:
354 <223> OTHER INFORMATION: Modified MSH peptide
357 <220> FEATURE:
358 <221> NAME/KEY: MISC_FEATURE
359 <222> LOCATION: (8)..(8)
360 <223> OTHER INFORMATION: Xaa is DVal
362 <400> SEQUENCE: 18
W--> 364 His Phe Arg Trp Gly Lys Pro Xaa
365 1          5
368 <210> SEQ ID NO: 19
369 <211> LENGTH: 8

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RAW SEQUENCE LISTING ERROR SUMMARY  
 PATENT APPLICATION: US/10/714,343C

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Input Set : A:\54275.8016.US01.txt  
 Output Set: N:\CRF4\02232006\J714343C.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 7  
 Seq#:2; Xaa Pos. 2  
 Seq#:3; Xaa Pos. 2,7  
 Seq#:4; Xaa Pos. 7  
 Seq#:5; Xaa Pos. 8  
 Seq#:6; Xaa Pos. 6  
 Seq#:7; Xaa Pos. 7  
 Seq#:8; Xaa Pos. 7  
 Seq#:9; Xaa Pos. 2,7  
 Seq#:10; Xaa Pos. 4  
 Seq#:11; Xaa Pos. 7  
 Seq#:12; Xaa Pos. 2,7  
 Seq#:18; Xaa Pos. 8  
 Seq#:22; Xaa Pos. 2  
 Seq#:23; Xaa Pos. 2  
 Seq#:24; Xaa Pos. 4  
 Seq#:26; Xaa Pos. 7  
 Seq#:27; Xaa Pos. 2  
 Seq#:28; Xaa Pos. 2,7  
 Seq#:30; Xaa Pos. 2  
 Seq#:32; Xaa Pos. 2  
 Seq#:34; Xaa Pos. 7  
 Seq#:35; Xaa Pos. 2  
 Seq#:36; Xaa Pos. 2,7  
 Seq#:37; Xaa Pos. 2  
 Seq#:38; Xaa Pos. 2,7  
 Seq#:40; Xaa Pos. 7  
 Seq#:41; Xaa Pos. 2  
 Seq#:42; Xaa Pos. 2  
 Seq#:44; Xaa Pos. 2  
 Seq#:46; Xaa Pos. 2

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29  
 Seq#:30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46

## VERIFICATION SUMMARY

DATE: 02/23/2006

PATENT APPLICATION: US/10/714,343C

TIME: 11:28:37

Input Set : A:\54275.8016.US01.txt

Output Set: N:\CRF4\02232006\J714343C.raw

L:36 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0  
L:56 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0  
L:81 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0  
L:101 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0  
L:122 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0  
L:142 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0  
L:162 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0  
L:182 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0  
L:207 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0  
L:227 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0  
L:247 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0  
L:272 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0  
L:364 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0  
L:426 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0  
L:446 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0  
L:466 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0  
L:500 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:0  
L:520 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:0  
L:545 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0  
L:579 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0  
L:613 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0  
L:647 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0  
L:667 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0  
L:692 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0  
L:712 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0  
L:737 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:0  
L:771 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0  
L:791 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0  
L:811 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0  
L:845 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:0  
L:879 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:0